



# **Evidence Implementation Training Program (EITP)**

**Hospitalized Older Adults: Prevention of Functional Decline**

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**Hospital Universitari de la Ribera**

# Audit Question: PESS

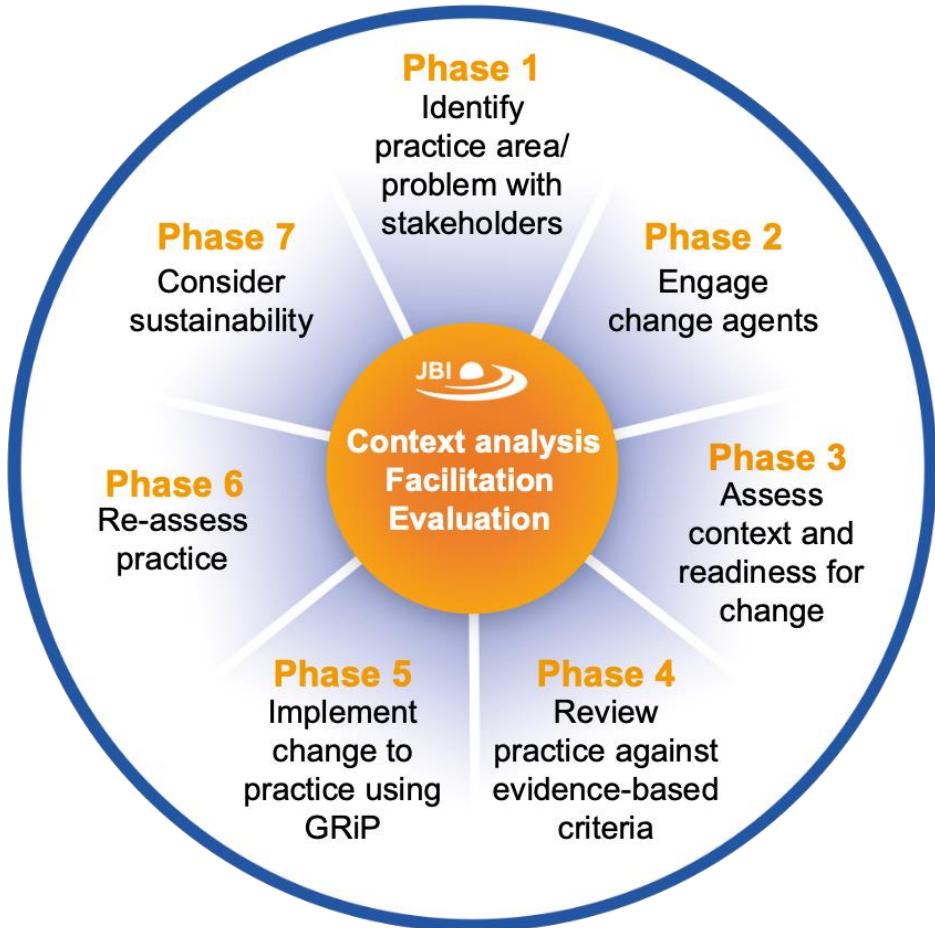
- Problem: Prevention of Functional Decline
- Evaluation:
  - Hospital orderly record
  - Mobilization prescription record
  - Rehabilitation interconsultation
  - Physiotherapy activity record
  - Health outcomes: Norton Scale
  - Identify barriers: review prescriptions and continence
  - Compliance outcomes
- Setting: Hospitalization area of Internal Medicine (Hospital Universitario de la Ribera)
- Stakeholders:
  - Nurses, nursing assistance
  - Hospital orderly
  - Doctors ( Internal Medicine, Rehabilitation)
  - Physiotherapists
  - Management team
  - Patient and family/ carer

# Aims and objectives

## Aims of the project

1. Improve the quality of care of hospitalized older adults.
2. Decrease the clinical variability
3. Avoid hospitalization readmissions
4. Improve the efficiency
5. Foment Teamwork

# Methods: 7 phases of Evidence Implementation



## Pre-planning:

Phase 1: Identifying practice area/problem with stakeholders

Phase 2: Engagement with change agents/project team

## Baseline Assessment and Implementation Planning

Phase 3: Assessment of context and readiness for change

Phase 4: Review of practice against evidence-based criteria

Phase 5: Implementation of change using GRiP

## Impact Evaluation and Sustainability

Phase 6: Re-assessment of practice

Phase 7: Sustainability Interventions

# Pre-planning

- Phase 1: Identify practice area/problem with stakeholders

- What is the clinical problem?

Older adults admitted to hospital are at risk of functional decline. Functional decline reduce the ability to perform day-to-day tasks secondary to a decrement in physical and/or cognitive functioning.

- Why did you identify this practice area/problem?

Because we see daily a functional decline in hospitalized older adults after hospitalization for an acute illness.

- Did you make this decision with key stakeholders?

Yes, the most of the teamwork know this problem and we want to change it.

# Pre-planning

- Phase 2: Engage change agents/project team
  - Who is going to be a part of your project team?  
One or two stakeholders of every professional group implicated in the project.
  - Who else do you need to engage with?  
With all the stakeholders describe previously.
  - How will you engage them and ensure their support?
    - At the beginning, we have a first meeting to explain the project and see the feedback from them, and also listen their proposals. Then we will plan the definitive project and explain it to all the groups of the stakeholders.
    - Motivation (incentives)
    - Select opinion leaders from all the groups
    - Inter-professional team, one from each group of stakeholders.

# Baseline Assessment and Implementation Planning

- Phase 3: Assessment of context and readiness for change

Leader and co-leader have made an approach to the context through the following characteristics and the subsequent SWOT matrix. A collective analysis of the situation remains pending through participatory meetings/roundtables with our appointed facilitators. These meetings would consider: availability of resources, interdisciplinary relationships, workplace culture, leadership support, communication systems for information exchange, knowledge and skills of health care staff and commitment to quality management.

The characteristics of the context:

- The change is possible, the workteam disagrees about the actual practice.
- The culture of the institution is receptive and they want also the change.
- The staff isn't prepared yet, but with work it's possible to change.
- We don't have all the resources, we think that more human resources or a new organization may be needed.
- The actual evidence of the topic fit to our context. We can apply.
- In general terms, culture and climate are conducive to change. The institution has a change predisposition.

# Baseline Assessment and Implementation Planning

- Phase 3: Assessment of context and readiness for change

## SWOT ANALYSIS

Strengths: Teamwork, Adaptation to changes, Professional commitment.

Weaknesses: Human Resources limited, Change Resistance

Opportunities: Improve clinical practice and quality, Professional development, Evidence-based care.

Threats: Lack of motivation and recognition, Workloads, Uncoordinated and unclear communication.

# Baseline Assessment and Implementation Planning

- Phase 4: Review of practice against evidence-based criteria

The collection of data for the audit criteria will be extracted from the patients' medical records and from the mobilisation records of the orderlies. Access to medical records will be recorded for research purposes.

Hospital's teaching and research committee is aware of the project and it will be registered as a quality improvement activity within the hospital, and it will not require ethical approval as no personal data will be shown.

The data used in its processing and storage will be treated in an appropriate manner and with anonymity and confidentiality.

## Phase 4: Review of practice against evidence-based criteria

Audit criterion	Sample	Method used to measure percentage compliance with best practice
<ul style="list-style-type: none"><li>Hospitalized older patients are assessed to determine if they are able and safe to mobilize.</li><li>If able and safe, hospitalized older patients are mobilized as soon as possible to prevent functional decline.</li></ul>	<ul style="list-style-type: none"><li>Patients are admitted at least four days</li><li>Age &gt; 70 years old</li><li>Size → 50</li></ul> <ul style="list-style-type: none"><li>Patients are admitted at least four days</li><li>Age &gt; 70 years old</li><li>Size 50</li></ul>	<ul style="list-style-type: none"><li>Method: Norton Scale</li><li>What was considered a “yes”: Norton scale record</li><li>What was considered a “no”? NO Norton scale record</li></ul> <ul style="list-style-type: none"><li>Method: Norton punctuation 10-14 points and mobilization record 24h post admission</li><li>What was considered a “yes”: Norton punctuation 10-14 and mobilization before 24h admission</li><li>What was considered a “no”? Norton punctuation 10-14 and NO mobilization before 24h admission</li><li>Not applicable: Norton &gt;14 or &lt;10</li></ul>

## Phase 4: Review of practice against evidence-based criteria

Audit criterion	Sample	Method used to measure percentage compliance with best practice
<ul style="list-style-type: none"><li>• If able and safe, hospitalized older patients are mobilized as frequently as possible to prevent functional decline.</li></ul>	<ul style="list-style-type: none"><li>• Patients are admitted at least four days</li><li>• Age &gt; 70 years old</li><li>• Size 50</li></ul>	<ul style="list-style-type: none"><li>• Orderly mobilization record every shift ( morning and afternoon)</li><li>• What was considered a “yes”: Morning and afternoon mobilization <math>\geq 80\%</math> of total admission</li><li>• What was considered a “no”? NO morning and afternoon mobilization <math>&lt; 80\%</math> of total admission</li></ul>

## Phase 4: Review of practice against evidence-based criteria

Audit criterion	Sample	Method used to measure percentage compliance with best practice
<ul style="list-style-type: none"><li>• Barriers to early and frequent mobilization are identified during hospitalization.</li><li>• Barriers are identified and addressed early during hospitalization.</li></ul>	<ul style="list-style-type: none"><li>• Patients are admitted at least four days</li><li>• Age &gt; 70 years old</li><li>• Patients NO morning and afternoon mobilization &lt; 80% of total admission</li><li>• Patients are admitted at least four days</li><li>• Age &gt; 70 years old</li><li>• Patients who have identified barriers to mobilization</li></ul>	<ul style="list-style-type: none"><li>• Barriers: medication, continence, critical health, vital signs.</li><li>• What was considered a “yes”: barrier identification</li><li>• What was considered a “no”? No barrier identification</li><li>• Barriers: medication, continence, critical health, vital signs.</li><li>• What was considered a “yes”: Yes, address barriers.</li><li>• What was considered a “no”? No address barriers.</li><li>• Not applicable: Deterioration of clinical status.</li></ul>

# Phase 4: Review of practice against evidence-based criteria

Audit criterion	Sample	Method used to measure percentage compliance with best practice
<ul style="list-style-type: none"><li>When appropriate, older patients who experience functional decline perform supervised exercise intervention.</li></ul>	<ul style="list-style-type: none"><li>Patients are admitted at least four days</li><li>Age &gt; 70 years old</li><li>Size 50*</li></ul>	<ul style="list-style-type: none"><li>Norton Scale punctuation decreases during admission</li><li>What was considered a “yes”: Norton Scale punctuation decreases and perform a supervised exercise intervention.</li><li>What was considered a “no”? Norton Scale punctuation decreases and NO perform a supervised exercise intervention.</li><li>Not applicable: Deterioration of clinical status.</li></ul>
<ul style="list-style-type: none"><li>When appropriate, older patients who experience functional decline perform Nursing Care Plan</li></ul>	<ul style="list-style-type: none"><li>Patients are admitted at least four days</li><li>Age &gt; 70 years old</li><li>Size 50*</li></ul>	<ul style="list-style-type: none"><li>Norton Scale punctuation decreases during admission</li><li>What was considered a “yes”: Norton Scale punctuation decreases and perform Nursing Care Plan</li><li>What was considered a “no”? Norton Scale punctuation decreases and NO perform Nursing Care Plan.</li><li>Not applicable: Deterioration of clinical status.</li></ul>

# Baseline Assessment and Implementation Planning

- Phase 5: Implementation of change using GRiP
  - The clinical data for the initial/baseline audit will be collected from the medical records and patient mobilization logs of admitted patients who meet the inclusion criteria.
  - This collection will be carried out by a total of six nurses who will be part of the project's operational team and will gather each criterion for every included patient.
  - After the baseline audit, group sessions will be held with the project team to identify barriers to compliance with the recommended practices (as reflected in the audit criteria). The project team will include key stakeholders such as nursing staff, nursing assistants (TCAE), porters, physiotherapists, internists, and rehabilitation doctors.
  - After identifying the barriers, the project team will meet again to discuss strategies that could be implemented to overcome these barriers.

# Impact Evaluation and Sustainability

- Phase 6: Re-assessment of practice

The data for the post-implementation audit will be selected using the same methodology described earlier in the baseline audit. During the implementation of the clinical practice, monthly meetings will be held with the project team to provide feedback on the compliance with the practice and monitor how the audit criteria evolve throughout the implementation process until the post-implementation audit is conducted.

# Impact Evaluation and Sustainability

- Phase 7: Sustainability Interventions
  - After the review and discussion with the project team of the results and the preparation of the Implementation Report, this data will be shared with the various relevant departments within the institution (management bodies, teaching and research committee).
  - A protocol will be created to maintain the practice in the hospitalization unit.
  - Representatives will be appointed to oversee the sustainability of the project, and later the project will be extended to other hospitalization units with similar characteristics (Scale Up)



# **Evidence Implementation Training Program (EITP)**

Deterioration of frail patient associated with hospitalization.

Participants Name: Domingo Pérez, Tamara y  
Almagro Moreno Sandra

Organization: Hospital Universitario La Paz

# Introduction

- According to the literature, interventions should include multifactorial exercise programs, environmental modifications, evaluation, proper nutrition and medications management.
- Interventions must be multidisciplinary and adapted to the needs of the individual.
- Improving communication, care coordination, reducing wait times, and adopting a patient-centered approach are crucial to improving the patient experience in clinical practice.

# Audit Question

- What are best practices regarding emotional well-being care and prevention of functional decline in hospitalized frail adult patients?

# Audit Question: PESS

What is the best evidence regarding effective strategies for preventing functional decline in hospitalized older adults?

- **Problem:** Among the most frequent hospital complications are hospital functional impairment, with a prevalence of between 35% and 70% (Córcoles-Jiménez MP. Deterioro funcional asociado a la hospitalización en pacientes mayores de 65 años. Enferm Clin. 2015;26(2):121-8.)
- **Evaluation:** Health outcomes, Barthel scale, Frail scale.
- **Setting:** 3 Internal medicine unit at the La Paz University Hospital
- **Stakeholders:** Geriatricians, Occupational therapists Clinical Nurses, Supervisor, Director, Asistant, Quality supervisor, Care continuity nurse, Physiotherapist.
- **Inclusion criteria:**
  - Age  $\geq 70$
  - Barthel index  $\geq 90$
  - Frail scale (1-2 Pre-Frail;  $\geq 3$  Frail)

# Aims and objectives

## Aims of the project

- OG.- The objective of this project was to improve practise in the presentation of clinical care among the group of patients identified as frail elderly in the setting of HULP Medicine Internal units.
- OE1.- Determine current compliance with best practice recommendations for the frail elderly in the area of care related to early mobilization, prevention of urinary incontinence, adequate nutrition and avoidance of delirium.
- OE2.- Identify barriers and facilitators to improving compliance and develop strategies to address areas of non-compliance.
- OE3.- Evaluate implementation strategies to address compliance, focusing on identified barriers and facilitators in the frail patient in the Internal Medicine area.

# Methods: 7 phases of Evidence Implementation



## Pre-planning:

Phase 1: Identifying practice area/problem with stakeholders

Phase 2: Engagement with change agents/project team

## Baseline Assessment and Implementation Planning

Phase 3: Assessment of context and readiness for change

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Phase 5: Implementation of change using GRiP

## Impact Evaluation and Sustainability

Phase 6: Re-assessment of practice

Phase 7: Sustainability Interventions

# Methods

- The project used the Joanna Briggs Institute Practical Application of Clinical Evidence System (JBI- PACES)
- Phase 1. Stakeholder engagement (or team establishment) and baseline audit.
- Phase 2. Design and implementation of strategies to improve practice (GRiP)
- Phase 3. Follow-up audit post implementation of change strategy

# Setting and Sample

## Setting:

- Frail hospitalization patient that is located in the 3 medicine units belongs to the La Paz University Hospital.

## Sample:

- 30 patients aged  $\geq 70$  years and are and meet inclusion criteria
- These patients, due to their characteristics, are very susceptible to be frail during their stay in the hospital.

# Pre-planning

- Phase 1: Identify practice area/problem with stakeholders
  - What is the clinical problem? Functional deterioration of the frail patient during admission.
  - Why did you identify this practice area/problem? for the existing variability in the care of the frail patient.
  - Did you make this decision with key stakeholders? Yes, we took into account the opinion of the drivers of each unit and realize a DAFO in the 3 medicine units.

## Phase 2: Engage change agents/project team

- Who is going to be a part of your project team? 3 nurses and 1 auxiliary nurse from each internal medicine unit.
- Who else do you need to engage with? All the staff in 3 medicine units, quality managers, unit supervisors.
- How will you engage them and ensure their support? With group sessions where we will take into account everyone's opinion and training sessions on the areas we identify for improvement, support Sessions in Hospital, trained nurses called driving nurses, Audits feedback

# Baseline Assessment and Implementation Planning

- Phase 3: Assessment of context and readiness for change
  - diagnostic/situational analysis; for example, a SWOT analysis
  - Analysis of the context (culture and climate) with the “Driving Group” formed by 9 nurses and 3 TCAEs in the 3 internal medicine units through session 13 June (SWOT).
- Phase 4: Review of practice against evidence-based criteria
  - Pilot of audit criteria: identify areas for improvement
  - Baseline data collection, including what data, which sources, how identify compliance, and ethics in data collection (anonymity, confidentiality, appropriate data storage): through electronic records we will collect the data we need to assess the achievement of objectives
  - Review Electronic Clinical History (HCIS)

## Phase 4: Review of practice against evidence-based criteria

Audit criterion	Sample	Method used to measure percentage compliance with best practice
1. The healthcare organization has clear conflict management policies	Nurses y TCAE	<p>Interview using questionnaire PES (by email)          Are you aware about the procedure to follow regarding conflict management in your department?</p> <p>YES: survey completed with the 10 questions          NO: survey not completed with the 10 questions          NS/NC: survey incorrectly completed</p>
2. If possible and safe, hospitalised elderly patients are mobilised as early as possible to prevent functional deterioration.	Patients with criteria of frailty admitted to internal medicine.	<p>Activity recorded in Electronic Clinical History (HCIS) 0208 NOC Movilidad; Indicador [20806] Ambulación; NIC relacionados 0221Terapia de ejercicios: ambulación</p> <p>YES: Patients with completion of NIC 0221Terapia de ejercicios: ambulación          NO: No Patients with completion of NIC 0221Terapia de ejercicios: ambulación          NS/NC: incorrectly completed records</p>

## Phase 4: Review of practice against evidence-based criteria

Audit criterion	Sample	Method used to measure percentage compliance with best practice
3. A validated nutritional screening tool is used to identify a hospitalised adult at risk of malnutrition.	Frail elderly patients who have undergone a nutritional scale.	Nutritional assessment on admission. Yes: Patients with completion of MNA screening No: No Patients with completion of MNA screening NS/NC: incorrectly completed records

## Phase 4: Review of practice against evidence-based criteria

Audit criterion	Sample	Method used to measure percentage compliance with best practice
4. Frail patients with urinary incontinence prevention programme	Frail elderly admitted in internal medicine.	<p>Patients with a record of urinary incontinence prevention activities ; [0502]Continencia Urinaria ; [31014] Llega al servicio entre la urgencia de orinar y la micción; NIC 0610 Cuidados de la incontinencia urinaria</p> <p>YES: Patients with completion of NIC 0610 Cuidados de la incontinencia urinaria</p> <p>NO: No registration patients with completion of NIC 0610 Cuidados de la incontinencia urinaria</p> <p>NS/NC: incorrectly completed records</p>
5. Patients presenting to the hospital with one or more risk factors for delirium are screened using a validated tool.	Frail elderly admitted in internal medicine.	<p>Signs of delirium are detected and in this case the CAM scale is performed; NOC [90005] Está orientado</p> <p>Yes: Patients with completion of CAM screening</p> <p>No: No Patients with completion of CAM screening</p> <p>NS/NC: incorrectly completed records</p>

<b>Audit criterion</b>	<b>Sample</b>	<b>Method used to measure percentage compliance with best practice</b>
6. Healthcare professionals routinely engage in care plan discussions with patients.	Nurses on the medical floors.	Registration in electronic health record constants: YES: completed registration agreed upon the care plan with the patient and/or agreed on the care plan with the family No: none registration not completed NS/NC: incorrectly completed records

# Project timeline

Project timeline		
Working meetings	AIMS	Planned Date
Project presentation and team building	To set up the team To explain the implementation project	18 june 2024 24 june 2024 27 june 2024
Discussion of Audit criteria	To define the indicators to perform the baseline audit	21 june 2024
Baseline audit	To send the questionnaires by email to the Nursing team	25 septiembre 2024
GRIP development	Evaluation results of the baseline Audit To identify barriers, strategies and resources	24 September 2024 30 October 2024
Implementation strategies	Gradually, step by step	November 2024
Final audit		Abril 2025

# Results: Baseline audit

- The Barthel scale on admission is often based on the patient's condition on arrival at the unit and not on the patient's baseline condition as it should be.
- The Barthel scale is performed and a data is recorded but the evolution of this data is not assessed during the hospital stay or at discharge.
- Evidence-based activities are not performed by all unit staff.
- There are stopovers such as Frail that are not included in the program for the moment.
- Mobilization of the patient is not recorded in the shift care plan.

# Baseline Assessment and Implementation Planning

- Phase 5: Implementation of change using GRIP
  - How baseline audit findings will be evaluated: Conducting training on the registration programme for the units involved.
  - Process description for how barriers and enablers to evidence utilisation will be identified: Barriers are lack of training, low motivation and workload and the facilitators are that many members of the health care team are involved and that there is management support
  - Description of how strategies for implementation will be planned and agreed by the project group: Through group meetings and consensus among group members.

# Impact Evaluation and Sustainability

- Phase 6: Re-assessment of practice

During the process of implementing good practices, we will hold sessions with the drivers of each unit to evaluate the process and make any necessary modifications.

- Phase 7: Sustainability Intervention:

- Analysis of results by the whole team, to assess the importance of sustainability.

- Feedback with all team members to detect possible improvements and highlight favourable points.

- Make the implementation easy, accessible, attractive to all staff.

# Discussion

- Achievements and challenges

# Conclusion

- Will make the work more efficient using best evidence-based Practices.
- Will avoid variability in clinical practice.

# Acknowledgements



Centro español para los cuidados  
de salud basados en la evidencia  
[www.evidenciaencuidados.es](http://www.evidenciaencuidados.es)



# **Evidence Implementation Training Program (EITP)**

**CREATION OF A COMPETENCE ACCREDITATION  
DOCUMENT FOR THE INSERTION OF  
MIDLINE/PICC INTO A UIAV THROUGH THE SIP**

**C.Molina, E.Lafuente  
Hospital del Mar**

# Audit Question: PESS

**What practice will improve the decentralization model in UIAVs?**

- **Problem:** Decentralization of the model in the implementation of PICC and midline by inexperienced personnel.
- **Evaluation:** Perform DAC (theoretical knowledge test and implantation audit (SIP)) + clinical criteria (incorrect placements and catheter-related thrombosis (CRT)) + N° pre-training implanter catheters → Training with UIAV → (DAC) + clinical criteria + N° catheters.
- **Setting:** Intensive Care Unit. Hospital del Mar.
- **Stakeholders:** UIAV, ICU nursing, ICU supervisor, Vascular Surgery, critical patient, clinical documentation.

# Aims and objectives

## Aims of the project

1. Create a document of competency accreditation using clinical and bibliographic criteria.
2. Compare the number of incorrectly inserted catheters and catheter-related thrombosis (CRT) pre and post training.
3. Compare pre and post training knowledge and insertion procedures.

# Methods: 7 phases of Evidence Implementation



## Pre-planning:

Phase 1: Identifying practice area/problem with stakeholders

Phase 2: Engagement with change agents/project team

## Baseline Assessment and Implementation Planning

Phase 3: Assessment of context and readiness for change

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Phase 5: Implementation of change using GRiP

## Impact Evaluation and Sustainability

Phase 6: Re-assessment of practice

Phase 7: Sustainability Interventions

# Pre-planning

## Phase 1: Identify practice area/problem with stakeholders

- **What is the clinical problem?** Non-availability of a document accrediting competence for a UIAV, which leads to its decentralization and the assumption of competence for PICC/midline implantation by inexperienced personnel, increasing the complications associated with catheter due to incorrect placement (CRT).
- **Why did you identify this practice area/problem?** In the bibliographic search there are documents with great construct variability, carried out with Delphi methodology and without internal/external validation of the instrument.
- **Did you make this decision with key stakeholders?** The decision has been made together with the co-leader and the Quality coordinator.

## Phase 2: Engage change agents/project team

Who is going to be a part of your project team?

AGENTS/PROJECT TEAM	CONTRIBUTION
<b>UIAV TEAM (Leader)</b>	<ul style="list-style-type: none"><li>• ICU nursing training for device insertion.</li><li>• Evaluation of theoretical knowledge test and pre- and post-training insertion procedure.</li><li>• Review of implanted catheters (Rx. and CRT).</li><li>• Accounting for catheters implanted pre and post training.</li></ul>
<b>UIAV REFERENCE (Co-leader)</b>	<ul style="list-style-type: none"><li>• Communication with ICU supervision for coordination of personnel and schedules.</li></ul>
<b>ICU SUPERVISOR</b>	<ul style="list-style-type: none"><li>• Communication with the UAV representative to manage nursing staff in your unit.</li><li>• Selection of nursing personnel for training.</li></ul>

## Phase 2: Engage change agents/project team

Who is going to be a part of your project team?

AGENTS/PROJECT TEAM	CONTRIBUTION
VASCULAR SURGERY	<ul style="list-style-type: none"><li>• Confirmation of diagnosis of catheter-associated thrombosis in the ICU.</li><li>• Clinical documentation for reporting ICU CRT diagnoses.</li></ul>
ICU PATIENT	<ul style="list-style-type: none"><li>• Device insertion.</li></ul>

# Baseline Assessment and Implementation Planning

## Phase 3: Assessment of context and readiness for change

The Nursing Directorate, supported by scientific literature, advocates a centralized UIAV model to lead the vascular access process, but sometimes there are services that require implanters (nurses who liaise with the UIAV) because they do not have a UIAV 365/ 24/7. However, being an implanter requires prior knowledge and skills.

# Phase 4: Review of practice against evidence-based criteria

Audit criterion	Sample	Method used to measure percentage compliance with best practice
1. Selection of the most appropriate device and insertion site should be based on the type and duration of therapy, physiological conditions, and vascular conditions, taking into consideration patient preference.	• ICU Nursing	<ul style="list-style-type: none"> <li>• Evaluation using Safe Insertion of PICC protocol (SIP)(1)</li> <li>• YES/NO</li> </ul>
2. An evaluation is carried out prior to insertion.	• ICU Nursing	<ul style="list-style-type: none"> <li>• Theoretical knowledge test (1)</li> <li>• The number of successes and errors will be evaluated.</li> <li>• Correct answers &gt;80%</li> </ul>
3. Maximum sterile barrier conditions and aseptic techniques (including hand hygiene) must be adhered to during insertion of a CVAD.	• ICU Nursing	<ul style="list-style-type: none"> <li>• Evaluation using SIP protocol (1)</li> <li>• YES/NO</li> </ul>
4. Thrombosis (2, 3)	• Critical Unit Patients	<ul style="list-style-type: none"> <li>• Review via HC.</li> <li>• Assessment by C.Vascular.</li> </ul>
5. Correct placement(3)	• Critical Unit Patients	<ul style="list-style-type: none"> <li>• It will be identified through Rx.</li> </ul>

1-Brescia F, Pittiruti M, Spencer TR, Dawson RB. The SIP protocol update: Eight strategies, incorporating Rapid Peripheral Vein Assessment (RaPeVA), to minimize complications associated with peripherally inserted central catheter insertion. *J Vasc Access*. 2024 Jan;25(1):5-13. doi: 10.1177/11297298221099838. Epub 2022 May 27. PMID: 35633065; PMCID: PMC10845830.

2-Mumoli N, Vitale J, Coccio M, Cei M, Brondi B, Basile V, Sabatini S, Gambaccini L, Carrara I, Camaiti A, Giuntoli S, Dentali F. Accuracy of nurse-performed compression ultrasonography in the diagnosis of proximal symptomatic deep vein thrombosis: a prospective cohort study. *J Thromb Haemost*. 2014 Apr;12(4):430-5. doi: 10.1111/jth.12522. PMID: 24495051.

3-Nickel B, Gorski L, Kleidon T, Kyes A, DeVries M, Keogh S, Meyer B, Sarver MJ, Crickman R, Ong J, Clare S, Hagle ME. Infusion Therapy Standards of Practice, 9th Edition. *J Infus Nurs*. 2024 Jan-Feb 01;47(1S Suppl 1):S1-S285. doi: 10.1097/NAN.0000000000000532. PMID: 38211609.

# Baseline Assessment and Implementation Planning

- **Phase 5: Implementation of change using GRiP**
  - Data on the number of catheters inserted by ICU nursing staff, the number of incorrect PICC placements and CRTs will be recorded.
  - 10 liaison nurses will be chosen (2 per shift)
  - All the data that will be obtained from the pre-training test of knowledge and skills will be collected.
  - An observation of the implementation of a PICC will be carried out by the liaison nurses.
  - Training will be carried out with the UIAV.

- **FACILITATORS**

- Provide a UIAV designed to lead the vascular access process where within its portfolio of services there is already training, CRT monitoring and incorrect insertions as a result indicator.
- The external validation of the document through a multicenter study can be carried out through the Spanish Society of Infusion and Vascular Access where the co-leader is the president and the partner leader.

- **BARRIERS**

- CRTs are multifactorial and some risk factors that may be confusing variables will have to be considered, but Balsorano 2021 already establishes through a SR and MET that ability is the risk factor with the most weight for the appearance of a CRT.
- SIP protocol compliance. To solve this, 3 post-training insertion control audits will be carried out by the UIAV for the liaison nurses.

# Baseline Assessment and Implementation Planning

2024-25	May	Jun.	Jul.	Ago.	Sep.	Oct.	Nov	Dic.	Ene.	Feb.	Mar	Abr.
<i>Protocol acceptance</i>												
<i>Creation of work group</i>												
<i>Information collection. (Number of catheters implanted) and results analysis (poor positioning and CRT)</i>												
<i>Pre-training test</i>												
<i>Implementation audit</i>												
<i>Analysis of results</i>												
<i>Training</i>												
<i>Post training test</i>												
<i>Implementation audit</i>												
<i>Analysis of results</i>												
<i>Information collection. (Number of catheters implanted) and results analysis (poor positioning and CRT)</i>												
<i>Comparison of pre and post training results</i>												
<i>Analysis results</i>												
<i>Project memory</i>												

# Impact Evaluation and Sustainability

- **Phase 6:** Re-assessment of practice
- Data on the number of catheters inserted by ICU nursing staff, the number of incorrect PICC placements and CRTs will be recorded.
- All the data obtained from the post-training knowledge and skills test will be collected.
- An observation of the implementation of a PICC will be carried out by the liaison nurses.
- WE WILL MEASURE IF THE IMPROVEMENT OF THE RESULT INDICATORS GOES IN SYNCHRONY WITH THE INCREASE IN KNOWLEDGE, SKILL AND COMPLIANCE WITH THE SIP PROTOCOL.
- **Phase 7:** Sustainability Interventions
  - This same model could be applied to other units such as the Oncology service.
  - An annual audit will be carried out to confirm the sustainability of the model.